Amendments to the Claims:

This listing of claims will replace all prior versions, and listing, of claims in the application.

1.(Currently amended) An illuminator device for an optical image processing system, wherein the image processing system comprises an optical system requiring partially coherent illumination, and where the illuminator comprises:

a source of coherent or partially coherent radiation which has an intrinsic coherence that is higher than the desired coherence;

a reflective surface that receives incident radiation from said source;

means for moving the reflective surface through a ~~desired~~ range of angles in two dimensions to scan the beam through a set of angles comprising a desired divergence, wherein the rate of the motion is fast relative to integration time of said image processing system; and

a condenser optic that re-images the moving reflective surface to the entrance plane of said image processing system, thereby, making ~~the~~ an illumination spot created in said entrance plane essentially stationary.

2.(Currently amended) The illuminator of claim 1 wherein the means for moving the reflective surface moves through the entire ~~desired~~ range of angles at lease once during the integration time of the image processing system.

3.(Original) The illuminator of claim 1 wherein the source of partially coherent radiation comprise a synchrotron source.

4.(Original) The illuminator of claim 1 wherein the source of partially coherent radiation comprises an undulator source.

5.(Original) The illuminator of claim 1 wherein the reflective surface comprises a flat mirror.

6.(Original) The illuminator of claim 3 wherein the reflective surface comprises a multilayer-coated flat mirror.

7.(Original) The illuminator of claim 4 wherein the reflective surface comprises a multilayer-coated flat mirror.

8.(Original) The illuminator of claim 1 wherein the condenser optic is a single reflective element.

9.(Original) The illuminator of claim 8 wherein the reflective condenser element is spherical.

10.(Original) The illuminator of claim 3 wherein the condenser optic is single reflective multilayer-coated element.

11.(Original) The illuminator of claim 10 wherein the reflective multilayer-condenser element is spherical.

12.(Original) The illuminator of claim 4 wherein the condenser optic is a single reflective multilayer-coated element.

13.(Original) The illuminator of claim 12 wherein the reflective multiplayer-condenser element is spherical.

14.(Cancelled) The illuminator of claim 1 wherein the means for moving the reflective surface comprises tilting the condenser optic in two dimensions.

15.(Currently amended) A method of modifying the coherence of a beam of coherent or partially coherent radiation ~~from an undulator source that comprises~~ comprising the steps of:

(a) directing the beam of radiation into a reflective surface:

(b) moving the reflective surface through a ~~desired~~ range of angles in two dimensions to scan the beam through a set of angles comprising a desired divergence, wherein the rate of the motion is fast relative to the subsequent observation time; and

(c) re-imaging the image from the moving reflective surface to an observation plane, thereby[[,]] making ~~the~~ an illumination spot created in said observation plane essentially stationary.

16.(Currently amended) The method of 15 wherein step [[c]] b comprises moving the reflective surface through the entire ~~desired~~ range of angles at least once during the integration time of the image processing system.

17.(Original) The method of claim 15 wherein the source of partially coherent radiation comprises a synchrotron source.

18.(Original) The method of claim 15 wherein the source of partially coherent radiation comprises an undulator source.

19.(Original) The method of claim 15 wherein the reflective surface comprises a flat mirror.

20.(Original) The method of claim 17 wherein the reflective surface comprises a multiplayer-coated flat mirror.

21.(Original) The method of claim 18 wherein the reflective surface comprises a multiplayer-coated flat mirror.

22.(Original) The method of claim 15 wherein step c employs a condenser optic that has a single reflective element.

23.(Original) The method of claim 22 wherein the reflective condenser element is spherical.

24.(Currently amended) The method of claim [[17]] <u>22</u> wherein the condenser optic is a single reflective multiplayer-coated element.

25.(Original) The method of claim 24 wherein the reflective multiplayer-condenser element is spherical.

26.(Original) The method of claim 18 wherein the condenser optic is a single reflective multiplayer-coated element.

27.(Original) The method of claim 26 wherein the reflective multiplayer-condenser element is spherical.

28.(Original) The method of claim 15 wherein step b comprises moving the reflective surface comprises tilting the optic in two dimensions.

29. (New) A lithographic illuminator wherein:

an effectively coherent synchrotron radiation beam is delivered to a scanning mirror by beamline optics,

the scanning mirror redirects the beam towards a relay mirror while said scanning mirror scans through a set of angles falling within an angular acceptance of said relay mirror,

said relay mirror reflects a pattern from said scanning mirror onto a reticle, and

the reflected pattern from the reticle is focused by projection optics onto a surface of a wafer.

30. (New) The lithographic illuminator of claim 29 wherein the projection optics comprises a lithographic optic.

31.(New) The lithographic illuminator of claim 29, wherein an illumination that is produced by the scanning mirror has a partial coherence that ranges from about 0.3 to 1 sigma.

32. (New) The lithographic illuminator of claim 29, wherein said relay mirror is an imaging mirror.

33. (New) The illuminator of claim 1, wherein the means for moving the reflective surface through a range of angles in two dimensions is a one-dimensional tilt mechanism mounted on a rotatable shaft.

34. (New) The illuminator of claim 1, wherein the means for moving the reflective surface through a range of angles in two dimensions is controlled by a tip and tilt mechanism.